

# CRF Errors Corrected by the STIC Systems Branch

Serial Number: 09/936,845A

CRF Processing Date: 4/2/02  
 Edited by: DC  
 Verified by: DC (STIC staff)

PC709  
 #9

ENTERED

- ☐ Changed a file from non-ASCII to ASCII
- ☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line.
- ☐ Edited a format error in the Current Application Data section, specifically: \_\_\_\_\_
- ☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other \_\_\_\_\_
- ☐ Added the mandatory heading and subheadings for "Current Application Data".
- ☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.
- ☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically: \_\_\_\_\_
- ☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: \_\_\_\_\_
- ☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: \_\_\_\_\_
- ☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- ☐ Inserted colons after headings/subheadings. Headings edited included: \_\_\_\_\_
- ☐ Deleted extra, invalid, headings used by an applicant, specifically: \_\_\_\_\_
- ☒ Deleted: ☒ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as \_\_\_\_\_
- ☐ Inserted mandatory headings, specifically: \_\_\_\_\_
- ☐ Corrected an obvious error in the response, specifically: \_\_\_\_\_
- ☐ Edited identifiers where upper case is used but lower case is required, or vice versa.
- ☐ Corrected an error in the Number of Sequences field, specifically: \_\_\_\_\_
- ☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.
- ☐ Deleted **ending** stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: \_\_\_\_\_
- ☐ Other: \_\_\_\_\_

\*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form. 3/1/95



PCT09

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/936,845A

DATE: 04/02/2002 P.5  
TIME: 13:01:25

Input Set : A:\PTO.DC.txt

Output Set: N:\CRF3\04022002\I936845A.raw

3 <110> APPLICANT: Napier, Johnathan A.  
 5 <120> TITLE OF INVENTION: Polyunsaturated Fatty Acid (PUFA) Elongase from  
 Caenorhabditis elegans  
 7 <130> FILE REFERENCE: 76/7  
 C--> 9 <140> CURRENT APPLICATION NUMBER: US/09/936,845A  
 C--> 10 <141> CURRENT FILING DATE: 2002-03-06  
 12 <160> NUMBER OF SEQ ID NOS: 22  
 14 <170> SOFTWARE: PatentIn Ver. 2.1  
 16 <210> SEQ ID NO: 1  
 17 <211> LENGTH: 27  
 18 <212> TYPE: DNA  
 19 <213> ORGANISM: C. elegans  
 21 <400> SEQUENCE: 1  
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 27 <212> TYPE: DNA  
 28 <213> ORGANISM: C. elegans  
 30 <400> SEQUENCE: 2  
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 34 <210> SEQ ID NO: 3  
 35 <211> LENGTH: 27  
 36 <212> TYPE: DNA  
 37 <213> ORGANISM: C. elegans  
 39 <400> SEQUENCE: 3  
 40 gcgggtacca tgccacaggg agaagtc 27  
 43 <210> SEQ ID NO: 4  
 44 <211> LENGTH: 27  
 45 <212> TYPE: DNA  
 46 <213> ORGANISM: C. elegans  
 48 <400> SEQUENCE: 4  
 49 gcgggatacct tattcaattt ttctttt 27  
 52 <210> SEQ ID NO: 5  
 53 <211> LENGTH: 29  
 54 <212> TYPE: DNA  
 55 <213> ORGANISM: C. elegans  
 57 <400> SEQUENCE: 5  
 58 gcgaattcac catgggtacg gaccaagga 29  
 61 <210> SEQ ID NO: 6  
 62 <211> LENGTH: 27  
 63 <212> TYPE: DNA  
 64 <213> ORGANISM: C. elegans  
 66 <400> SEQUENCE: 6  
 67 gcggagctcc tactcttcct tgggacg 27

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70 &lt;210&gt; SEQ ID NO: 7

71 &lt;211&gt; LENGTH: 876

72 &lt;212&gt; TYPE: DNA

73 &lt;213&gt; ORGANISM: C. elegans

75 &lt;400&gt; SEQUENCE: 7

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76 atggagcttg ccgagttctg gaatgatctc aacaccttca ccatctacgg accgaatcac 60
77 acagatatga ccacaaaata caaatattca tatcacttcc cagggtgaaca ggtggcggat 120
78 ccgcagtatt ggacgatttt attccagaaa tattggtatc attcgatcac aatatcagtt 180
79 ctttattttca ttttaattaa ggtgattcaa aagtttatgg agaatcgaaa accattcact 240
80 ttgaaatacc cattgattct ttggaatgga gctcttgag cattcagtat aattgccaca 300
81 ttgcggttct ctattgatcc tctacgatca ctatatgctg aaggattcta caaaactctg 360
82 tgctattcgt gtaatccaac tgatgtggct gcattttgga gctttgcatt cgctctttcc 420
83 aagattgttg aacttggaga cactatgttc attattttga gaaaacggcc attgatcttt 480
84 ttacactact atcatcatgc agcagtgtta atctacactg tccattctgg tgccgagcat 540
85 actgcagctg gtcgtttcta catcctaata aactacttcg cacattctct catgtatact 600
86 tactacacag tttctgccat gggatacaga ttaccgaaat gggtatcaat gactgtcaca 660
87 actgttcaaa caactcaaat gttagctgga gtcggaataa cttggatggg gtacaaagtg 720
88 aaaactgaat acaagcttcc ttgtcaacaa tccgtagcca atttgtatct cgcattcgtc 780
89 atctatgtca catttgccat tcttttcatt caattcttcg tcaaggcata cattatcaag 840
90 tcgtcgaaga agtcgaaatc ggtgaagaac gaataa 876

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93 &lt;210&gt; SEQ ID NO: 8

94 &lt;211&gt; LENGTH: 1308

95 &lt;212&gt; TYPE: DNA

96 &lt;213&gt; ORGANISM: C. elegans

98 &lt;400&gt; SEQUENCE: 8

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101 tcaattacag catctgtcgt gtatgtagcc gtcattttta caggaaagaa ggtggttctc 180
102 atctacaaaa aatcacgagt tattactttt gagtctagcc ttcagaatgc aattaagaat 240
103 cgaaaccgaa aatcacttaa tagttctcaa atgtttcaga ttatggaaaa gtacaagccc 300
104 ttccaactgg acacaccact cttcgtctgg aattcatttt tagccatttt ctcaattctc 360
105 gggttcctcc gaatgacacc tgaatttgta tggagttggg cagcagaagg aaactcattc 420
106 aaatattcaa tttgtcattc atcttatgct caaggagtca ctggtttctg gactgaacaa 480
107 ttcgcaatga gcaaaacttt cgagctcatc gacacaatct tcatcgttct tcgtaaactg 540
108 cactcatct tcttctactg gtatcatcat gtaactgtta tgatctacac atggcacgcg 600
109 tacaaggatc aactgcacac aggacggtgg ttcatttgga tgaattatgg agttcatgct 660
110 cttatgtatt cctactatgc tcttcgttct ctgaaattcc gtcttccaaa acaaatggca 720
111 atggttgta ctactctcca acttgctcaa atggttatgg gagtaatcat cggagtcact 780
112 gtctaccgta tcaagtcac ggggtgaatac tgccaacaga catgggacaa tttgggatta 840
113 tgctttggag tttattttcac atatttctt cttttcgcca acttcttcta ccatgcatat 900
114 gttaagaaaa acaaccgtac agtaaattat gaaaataatt caaaaaattt ccccgatctc 960
115 gttttaattt acctgagaaa aaaggtttca agaaaatcga aaaatcggca atgttcagaa 1020
116 aataattata aaattcaatt ttcatacaat ttgttaatg ttgatggaaa aaaacataag 1080
117 aaaacatatg aacttattct tccaagaaga aaaatgacca caattttaac ttttctattt 1140
118 ggaaaaaatc gaattttttc gaaatatcag aaaaatcgaa aaaacatttc gattcctggt 1200
119 gatttcgaaa ttctggagcc aaaagaagat atcaatgcta acatcgtgta gccatccatc 1260
120 acaacgaggt ccgccgccgc acgaagaaaa gttcaaaaag ctgattag 1308

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123 &lt;210&gt; SEQ ID NO: 9

124 &lt;211&gt; LENGTH: 825

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Input Set : A:\PTO.DC.txt

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125 &lt;212&gt; TYPE: DNA

126 &lt;213&gt; ORGANISM: C. elegans

128 &lt;400&gt; SEQUENCE: 9

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130 agtctggatc agactgattc ttacatgtct acatttgtac cattatccta taaaatcatg 120
131 attggttatc tcgtcaccat ctacttcggg caaaaattaa tggctcacag aaaaccattc 180
132 gatctccaaa atacacttgc tctctggaac ttcggttttt cactgttctc gggaatcgcc 240
133 gcctataaagc ttattccaga actattcgga gttttcatga aggacgggtt tgtcgcttcc 300
134 tactgtcaaa acgagaacta ctacaccgat gcatcaactg gattctgggg ctgggccttt 360
135 gtgatgtcga aagctccaga actaggggat actatgttct tggctcctcg taaaaaacca 420
136 gttatcttca tgcaactgga tcatcatgcc ctacacattg tctacgcagt agtcacatac 480
137 tctgagcatc aggcatgggc tcgttgggtc ttggctctca accttgccgt ccacactgtt 540
138 atgtatttct acttcgccgt tcgcgccttg aacatccaaa ctccacgccc agtggcaaaag 600
139 ttcatcacta ctattcaaat tgtccaattt gtcattctcat gctacatttt tgggcatttg 660
140 gtattcatta agtctgctga ttctgttctt ggttgcgctg ttagctggaa tgtgctatcg 720
141 atcggaggac tcatgtacat cagttatttg ttcccttttg ccaagtctt ctacaaggcc 780
142 tacattcaaa aacgctcacc aaccaaaaacc agcaagcagg agtag 825

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145 &lt;210&gt; SEQ ID NO: 10

146 &lt;211&gt; LENGTH: 861

147 &lt;212&gt; TYPE: DNA

148 &lt;213&gt; ORGANISM: C. elegans

150 &lt;400&gt; SEQUENCE: 10

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151 atgtcatcgg acgatcgtgg cactagaacc ttcaagatga tggatcaaat tcttggaaaca 60
152 aacttcactt atgaagggtgc caaagaagtt gctcgaggcc ttgaagggtt ctacgcaaaag 120
153 cttgccgtcg gatataattgc cactattttt ggactgaaat attatatgaa agaccgaaaaa 180
154 gccttcgac tcagtaactcc attaaacatt tggaaatgga ttctttcgac attcagctta 240
155 ttgggattct tattcacttt tcctactttg ttatcagtta tcagaaagga tggatttagt 300
156 cacacctatt cccatgtctc tgagctttac actgacagta cctctggata ttggatcttc 360
157 ctttgggtta tctcaaagat tccggaactt ttggatacag tattcattgt tcttcgcaag 420
158 agaccactta ttttcatgca ctggtaccat cagcgattga ccggttacta tgctcttgct 480
159 tgctaccatg aggatgctgt ccatatgggt tgggttgat ggatgaatta tattattcat 540
160 gcattcatgt atggatacta tcttctgaaa tctctgaaaag ttccaattcc accatcagtt 600
161 gctcaagcaa tcaccacatc tcaaagtgtt caattcgag ttgccatttt cgcacaagtt 660
162 catgtttcct ataaacacta tgttgaggga gttgaaggat tagcctactc gttcagagga 720
163 acagctatcg gatttttcat gcttactacc tacttctatc tatggattca attctacaaa 780
164 gagcactatc ttaagaatgg aggcacaaaag tacaatttgg caaaggatca ggcaaaaact 840
165 caacaaaaga aggctaacta a 861

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168 &lt;210&gt; SEQ ID NO: 11

169 &lt;211&gt; LENGTH: 825

170 &lt;212&gt; TYPE: DNA

171 &lt;213&gt; ORGANISM: C. elegans

173 &lt;400&gt; SEQUENCE: 11

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174 atgccacagg gagaagtctc attctttgag gtgctgacaa ctgctccatt cagtcatgag 60
175 ctctcaaaaa agcatattgc acagactcag tatgctgctt tctggatctc aatggcatat 120
176 gttgtcgtta tttttgggct caaggctgtc atgacaaacc gaaaaccatt tgatctcacg 180
177 ggaccactga atctctggaa tgcgggtctt gctattttct caactctcgg atcacttgcc 240
178 actacatttg gacttctcca cgagttcttc agccgtggat ttttcgaatc ttacattcac 300
179 atcggagact tttataatgg actttctgga atgttcacat ggcttttcgt tctctcaaaa 360
180 gttgctgaat tcggagatac actttttatt attcttcgta aaaagccatt gatgttcctt 420

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DATE: 04/02/2002

PATENT APPLICATION: US/09/936,845A

TIME: 13:01:25

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181 cattggtatc atcatgtgct tacaatgaat tatgctttta tgtcatttga agctaatttg 480
182 ggattttaata cttggattac atggatgaat ttctcagttc actcaattat gtatggatat 540
183 tatatgcttc gttcttttgg tgtcaagggt ccagcatgga ttgccaagaa tattacaaca 600
184 atgcaaattc ttcaattcgt tattactcat ttcatctttt tccacgttgg atatttggca 660
185 gttactggac aatctgttga ctcaactcca ggatattatt ggttctgcct tctcatggaa 720
186 atctcttatg tegtctgtt cggaaacttc tactatcaat catacatcaa gggagggtgc 780
187 aagaagttta atgcagagaa gaagactgaa aagaaaattg aataa 825
190 <210> SEQ ID NO: 12
191 <211> LENGTH: 846
192 <212> TYPE: DNA
193 <213> ORGANISM: C. elegans
195 <400> SEQUENCE: 12
196 atgtatttga attatttcgc gacggaaatc ttccatcgta gtgcggtttg tgaacagaa 60
197 gcttgtcgtc cgtcaaaaat aatgattgct gacgtgttca aatggaaatt cgatgcaaac 120
198 gaattgtgga gtcttttaac gaatcaggat gaagttttcc cgcattattag agcacggcga 180
199 ttcatccaag aacatttttg tctattcgtc cagatggcaa ttgcatatgt cattttggtg 240
200 ttctcaatca aaagggttcat gagggatcgt gaaccatttc aactcaccac agctcttcgt 300
201 ctctggaact tcttcctctc cgtcttctca atttatggtt cctggacaat gtttccattt 360
202 atggttcaac aaataagact ttatggtctc tacggatgtg gatgogaagc actttcaaac 420
203 ctcccgagtc aagcagaata ttggcttttc ctgacgatct tgtccaaagc tgtggagtgt 480
204 gttgatacat ttttcttggt tctccggaaa aaaccactca tcttcctaca ctggtatcat 540
205 catatggcaa catttgtctt ctctcgcagt aattaccgca ctccatcgtc acaatcacgc 600
206 gtcggagtta tegtcaacct gttcgtgcat gccttcatgt acccatacta tttcacccga 660
207 tcaatgaaca tcaaagttcc tgcgaaaatt tcaatggctg ttacagttct tcaattgact 720
208 caattcatgt gctttatcta tggatgtact ctcatgtact actcgttggc cactaatcag 780
209 gcacgatacc cctcaaatac acctgcgaca ctccaatgtt tgtcctacac tctacatttg 840
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214 <211> LENGTH: 866
215 <212> TYPE: DNA
216 <213> ORGANISM: C. elegans
218 <400> SEQUENCE: 13
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221 gctgatcact ttgatgttac tattcaggct tcaatcctgt acatggctgt tgtgttcgga 180
222 acaaaatggg tcatgcgtaa tegtcaacca ttccaattga ctattccact caacatctgg 240
223 aatttcatcc tcgccgcatt ttccatcgca ggagctgtca aaatgacccc agagttcttt 300
224 ggaaccattg ccaacaaagg aattgtcgat cctactgcaa agtggttgat ttacgaaag 360
225 gagagaatgg atactgggtg tggctcttca tggcttccaa acttttcgaa cttgttgaca 420
226 ccatcttctt ggttctcgt aaacgtccac tcatgttctt tcaactggtat caccatattc 480
227 tcaccatgat ctacgcctgg tactctcatc cattgacccc aggattcaac agatacggaa 540
228 tttatcttaa ctttgtcgtc cacgccttca tgtactctta ctacttctt cgtcogatga 600
229 agattcgcgt gccaggattc atcgcccaag ctatcacatc ttttcaaatac gttcaattca 660
230 tcatctcttg cgccgttctt gctcatcttg gttatctcat gcacttcaac aatgccaact 720
231 gtgatttcga gccatcagta ttcaagctcg cagttttcat ggacacaaca tacttggctc 780
232 ttttcgtcaa cttcttcctc caatcatatg ttctccgcgg aggaaaagac aagtacaagg 840
233 cagtgcctaaa gaagaagaac aactaa 866
236 <210> SEQ ID NO: 14
237 <211> LENGTH: 801

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## RAW SEQUENCE LISTING

DATE: 04/02/2002

PATENT APPLICATION: US/09/936,845A

TIME: 13:01:25

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239 <213> ORGANISM: C. elegans
241 <400> SEQUENCE: 14
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243 tattccccat tcgagtacga ttccacgttg ctcacgcagt catgtcgggtg tacttatcag 120
244 ctgcttatat tattgcgaca aatttattac agagatatat ggagtcacgg aaacctaaaa 180
245 cttttactag catggaacgg ttttttggca gtgttcagta ttatgggtac atggagattt 240
246 ggaatcgaat tctacgatgc tgttttcaga agaggcttca tcgattcgat ctgcctggct 300
247 gtaaatccac gtccaccgtc cgcattctgg gcatgcatgt tcgctctatc gaaaatcgcc 360
248 gagtgtgggg acacgatgtt cttgggtgctg aggaaacggc cggttatatt ccttcactgg 420
249 tatcatcacg ctgttgttct gatcctttct tggcatgctg caatcgaact cacagctcca 480
250 ggacgctggt ttatttttat gaactatttg gtgcattcaa taatgtatac atactacgca 540
251 ataacatcaa tcggtatcgc tcttcccaaa atcgtttcaa tgactgttac attccttcaa 600
252 actcttcaaa tgctcattgg tgtcagcatt tcttgcatgg tgctttattt gaagcttaat 660
253 ggagagatgt gccacaatc ctacgacaat ctggcggtga gcttcggaat ctacgcctca 720
254 ttcctgggtgc tattctccag tttcttcaac aatgcatatt tggtaaaaaa ggacaagaaa 780
255 cccgatgtga agaaggatta a 801
258 <210> SEQ ID NO: 15
259 <211> LENGTH: 291
260 <212> TYPE: PRT
261 <213> ORGANISM: C. elegans
263 <400> SEQUENCE: 15
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265 1 5 10 15
267 Gly Pro Asn His Thr Asp Met Thr Thr Lys Tyr Lys Tyr Ser Tyr His
268 20 25 30
270 Phe Pro Gly Glu Gln Val Ala Asp Pro Gln Tyr Trp Thr Ile Leu Phe
271 35 40 45
273 Gln Lys Tyr Trp Tyr His Ser Ile Thr Ile Ser Val Leu Tyr Phe Ile
274 50 55 60
276 Leu Ile Lys Val Ile Gln Lys Phe Met Glu Asn Arg Lys Pro Phe Thr
277 65 70 75 80
279 Leu Lys Tyr Pro Leu Ile Leu Trp Asn Gly Ala Leu Ala Ala Phe Ser
280 85 90 95
282 Ile Ile Ala Thr Leu Arg Phe Ser Ile Asp Pro Leu Arg Ser Leu Tyr
283 100 105 110
285 Ala Glu Gly Phe Tyr Lys Thr Leu Cys Tyr Ser Cys Asn Pro Thr Asp
286 115 120 125
288 Val Ala Ala Phe Trp Ser Phe Ala Phe Ala Leu Ser Lys Ile Val Glu
289 130 135 140
291 Leu Gly Asp Thr Met Phe Ile Ile Leu Arg Lys Arg Pro Leu Ile Phe
292 145 150 155 160
294 Leu His Tyr Tyr His His Ala Ala Val Leu Ile Tyr Thr Val His Ser
295 165 170 175
297 Gly Ala Glu His Thr Ala Ala Gly Arg Phe Tyr Ile Leu Met Asn Tyr
298 180 185 190
300 Phe Ala His Ser Leu Met Tyr Thr Tyr Tyr Thr Val Ser Ala Met Gly
301 195 200 205
303 Tyr Arg Leu Pro Lys Trp Val Ser Met Thr Val Thr Thr Val Gln Thr

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Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.



VERIFICATION SUMMARY

PATENT APPLICATION: US/09/936,845A

DATE: 04/02/2002

TIME: 13:01:26

Input Set : A:\PTO.DC.txt

Output Set: N:\CRF3\04022002\I936845A.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:748 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22  
L:754 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22  
L:757 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22  
L:772 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22